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EXAMINER

ADAMS, CHARLES D

ART UNIT	PAPER NUMBER
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2164

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/726,702	Applicant(s) BLEVINS ET AL.	
	Examiner CHARLES D. ADAMS	Art Unit 2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-16 and 18-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-16, and 18-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. In response to communications filed on 8 January 2009, claims 1, 4, 12, 14, 18, 21, and 26 are amended, claims 7 and 17 are cancelled. Claims 1-6, 8-16, and 18-31 are pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 6, 8-13, 16, 18-20, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson et al. (US Pre-Grant Publication 2003/0200212) in view of Cotner et al. (US 5,884,327).

As to claim 1, Benson et al. teaches a computer-based method implementing a robust 2-phase commit protocol between a client and a server via a relational table and software facilitating communications with said client and said server, said relational table storing a list of potentially indoubt units of work (see abstract, paragraphs [0032]-[0034]), said method comprising the steps of:

(a) receiving an invocation from said client for a first phase commit for a transaction representing a unit of work (see paragraph [0023]);

(b) inserting an entry in said relational table corresponding to said unit of work and transmitting an instruction to said server to prepare to commit for said transaction (see paragraph [0023]), Benson et al. does not explicitly teach wherein said inserted entry indicating said unit of work is potentially an indoubt entry

Cotner et al. teaches wherein said inserted entry indicating said unit of work is potentially an indoubt entry (see 13:32-55)

Benson et al. as modified teaches:

said relational table stored in said server, and, to minimize cost, a request for said insertion of entry in said relational table is placed on a network message that includes said instruction to said server to prepare to commit for said transaction (see Benson et al. paragraphs [0022] and [0023]),

(c) receiving a request from said client to perform any of the following decisions: a COMMIT, a ROLLBACK, or a RECOVER (see Benson et al. paragraph [0064]. Clients may initiate rollbacks); and

(d) updating said relational table after execution of said request (see Benson et al. paragraph [0030]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Cotner et al., since Cotner et al. teaches a system that “allows a two-phase commit protocol to work properly, even with the client acting as the coordinator does not have a log to record two-phase state information” (see Abstract).

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As to claim 2, Benson et al. as modified teaches wherein received request is a COMMIT or a ROLLBACK decision, and said method comprises the steps of:

communicating with said server and processing said COMMIT or ROLLBACK request, and upon successful processing (see Benson et al. paragraph [0064]),

deleting an entry corresponding to said COMMIT OR ROLLBACK request in said relational table (see Benson et al. paragraph [0064]).

As to claim 6, Benson et al. as modified teaches wherein said relational table is a SQL table and said step of inserting an entry in said relational table is performed via issuing a SQL INSERT instruction (see Benson et al. paragraphs [0032]-[0034]. An SQL table is generated into which rows are inserted).

As to claim 8, Benson et al. as modified teaches wherein said method is implemented across networks (see Benson et al. paragraphs [0022]-[0023]).

As to claim 9, Benson et al. as modified teaches wherein said across networks element comprises any of, or a combination of, the following: local area network, wide area network, wireless network, or the Internet (see Benson et al. paragraph [0022]).

As to claim 10, Benson et al. as modified teaches wherein steps (a) through (d) are performed over a separate network connection, said separate network connection separate from a network connection over which requests for updating entries in said

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relational table are placed to avoid starting a new unit of work (see Cotner et al. 7:40-50 and Figure 4. There exist separate network connections for requests).

As to claim 11, Benson et al. as modified teaches wherein said method comprises the step of mapping said 2-phase protocol onto a protocol supported by said server (see Benson et al. paragraphs [0022]-[0023]).

As to claim 12, please refer to the rejection of claim 1, above.

As to claim 13, please refer to the rejection of claim 2, above.

As to claim 16, please refer to the rejection of claim 6, above.

As to claim 18, Benson et al. teaches a computer-based method implementing a robust 2-phase commit protocol between a transaction manager and a database cluster via software facilitating communications with said transaction manager and said database cluster, said computer-based method comprising the steps of:

(a) creating an SQL table for storing a list of potentially indoubt units of work (see abstract, paragraphs [0032]-[0033]);

(b) receiving an invocation from said transaction manager for a first phase of commit for a transaction representing an unit of work (see paragraph [0023]);

Benson et al. does not explicitly teach:

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inserting, via an SQL INSERT instruction, an indoubt entry in said SQL table corresponding to said unit of work

Cotner et al. teaches:

inserting, via an SQL INSERT instruction, an indoubt entry in said SQL table corresponding to said unit of work (see 13:32-55)

Benson et al. as modified teaches:

and transmitting a prepare to commit instruction to said database cluster, said SQL INSERT instruction and said prepare to commit instruction placed on one network message to minimize cost (see Benson et al. paragraphs [0023] and [0032]);

(d) receiving a request from said transaction manager to perform any of the following decisions: a COMMIT, a ROLLBACK, or a RECOVER (see Benson et al. paragraph [0064]) and

(e) updating said SQL table after execution of said request (see Benson et al. paragraph [0030]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Cotner et al., since Cotner et al. teaches a system that “allows a two-phase commit protocol to work properly, even with the client acting as the coordinator does not have a log to record two-phase state information” (see Abstract).

As to claim 19, Benson et al. as modified teaches communicating with said database cluster and processing said COMMIT or ROLLBACK request (see Benson et al. paragraph [0064]), and upon successful processing,

deleting an entry corresponding to said COMMIT or ROLLBACK request in said relational table via an SQL DELTE instruction (see paragraph [0064]. An SQL table is used in Benson et al. Thus, an instruction to delete is inherently an 'SQL DELETE instruction').

As to claim 20, Benson et al. as modified teaches wherein steps (a) through (e) are performed over a separate network connection, said separate network connection separate from a network connection over which said SQL DELETE instructions are placed to avoid starting a new unit of work (see Cotner et al. 7:40-50 and Figure 4. There exist separate network connections for requests).

As to claim 24, Benson et al. as modified teaches wherein said method is implemented across networks (see Benson et al. paragraphs [0022]-[0023]).

As to claim 25, Benson et al. as modified teaches wherein said across networks element comprises any of, or a combination of, the following: local area network, wide area network, wireless network, or the Internet (see Benson et al. [0022]-[0023]).

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4. Claims 3-4, 14, 21-22, 26-27, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson et al. (US Patent 6,873,995) in view of Cotner et al. (US 5,884,327), and further in view of Freund et al. (US 5,923,833)

As to claim 3, Benson et al. as modified teaches the method as per claim 1.

Benson et al. does not explicitly teach:

wherein said received request is a RECOVER decision, and said method comprises the steps of:

Freund et al. teaches:

wherein said received request is a RECOVER decision (see 11:22-35),

Benson et al. as modified teaches and said method comprises the steps of::

querying said relational table to identify a list of indoubt units of work (see Freund et al. 11:22-35);

transmitting said list of indoubt units of work to said client (see Freund et al. 11:22-35);

receiving a COMMIT or ROLLBACK decision from said client (see Freund et al. 11:22-35);

communicating with said server to process said COMMIT or ROLLBACK request, and upon successful processing (see Freund et al. 11:22-35),

deleting an entry corresponding to said COMMIT or ROLLBACK request in said relational table (see Freund et al. 11:22-35 and Benson et al. paragraph [0045]).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Freund et al., since Freund et al. teaches that “For example, in the case of a bank automated teller machine (ATM) from which a customer seeks to withdraw money, the actions of issuing the money, reducing the balance of money on hand in the machine and reducing the customer's bank balance must all occur or none of them must occur. Failure of one of the subordinate actions would lead to inconsistency between the records and actual occurrences” (see 1:15-23).

As to claim 4, Benson et al. as modified teaches a computer-based method as per claim 1.

Benson et al. as modified does not explicitly teach wherein said received request is a RECOVER decision,

Freund et al. teaches wherein said received request is a RECOVER decision (see 11:22-35),

Benson et al. as modified teaches:

said server is a database cluster, and said software supports execution of said RECOVER decision even if one or more members of the database cluster are unavailable (see Cotner et al. 5:12-26 and 5:64-67. Even if a log is unavailable, a transaction can still be recovered).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Freund

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et al., since Freund et al. teaches that “For example, in the case of a bank automated teller machine (ATM) from which a customer seeks to withdraw money, the actions of issuing the money, reducing the balance of money on hand in the machine and reducing the customer's bank balance must all occur or none of them must occur. Failure of one of the subordinate actions would lead to inconsistency between the records and actual occurrences” (see 1:15-23).

As to claim 14, please refer to the rejection of claim 3, above.

As to claim 21, Benson et al. teaches a computer-based method as per claim 18.

Benson et al. does not explicitly teach wherein said received request is a RECOVER decision,

Freund et al. teaches wherein said received request is a RECOVER decision (see 11:22-35),

Benson et al. as modified teaches:

said method comprising the additional steps of:

querying said SQL table to identify a list of indoubt units of work (see Freund et al. 11:22-35);

transmitting said list of indoubt units of work to said transaction manager (see Freund et al. 11:22-35);

receiving a commit or rollback decision from said transaction manager (see Freund et al. 11:22-35);

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communicating with said database cluster to process said COMMIT or ROLLBACK request, and upon successful processing (see Freund et al. 11:22-35), and deleting an entry corresponding to said COMMIT or ROLLBACK request in said SQL table via a SQL DELETE instruction (see Freund et al. 11:22-35 and Benson et al. paragraph [0045]. Benson et al. teaches a table operated on using SQL).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Freund et al., since Freund et al. teaches that “For example, in the case of a bank automated teller machine (ATM) from which a customer seeks to withdraw money, the actions of issuing the money, reducing the balance of money on hand in the machine and reducing the customer's bank balance must all occur or none of them must occur. Failure of one of the subordinate actions would lead to inconsistency between the records and actual occurrences” (see 1:15-23).

As to claim 22, Benson et al. as modified teaches wherein steps of querying, transmitting, receiving, and communicating are performed over a separate network connection, said separate network connection separate from a network connection over which said SQL DELETE instructions are placed to avoid starting a new unit of work (see Cotner et al. 7:40-50 and Figure 4. There exist separate network connections for requests)

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As to claim 26, Benson et al. an article of manufacture comprising computer usable medium having computer readable program code embodied therein implementing a 2-phase commit protocol between a client and a server comprising computer-readable program code (see abstract, paragraphs [0032]-[0034]), said medium comprising:

computer readable program code implementing a first module invoked to create a relational table in said server to store potential indoubt units of work (see abstract, paragraphs [0032]-[0034]);

Benson et al. does not explicitly teach:

computer readable program code implementing a second module invoked to insert or delete indoubt entries of work in said relational table,

Cotner et al. teaches:

computer readable program code implementing a second module invoked to insert or delete indoubt entries of work in said relational table (see 13:32-55),

Benson et al. as modified teaches:

wherein insertions of indoubt entries are performed if an invocation is received from said client for a first phase of commit for a transaction representing a unit of work (see Cotner et al. 13:32-55 and Benson et al. paragraphs [0022]-[0023]); and

wherein deletions of indoubt entries are performed upon successful processing of a COMMIT or ROLLBACK decision (see Cotner et al. 13:32-55 and Benson et al. paragraph [0045]); and

Benson et al. as modified does not teach:

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computer readable program code implementing a third module invoked upon receiving a recover instruction from said client, said third module extracting a list of indoubt units of work from said relational table and transmitting said extracted list to said client, wherein said client inspects said list and issues a COMMIT or ROLLBACK decision to said server regarding said indoubt units of work in said list.

Freund et al. teaches:

computer readable program code implementing a third module invoked upon receiving a recover instruction from said client, said third module extracting a list of indoubt units of work from said relational table and transmitting said extracted list to said client, wherein said client inspects said list and issues a COMMIT or ROLLBACK decision to said server regarding said indoubt units of work in said list (see Freund et al. 11:22-35 and Benson et al. paragraph [0045]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Cotner et al., since Cotner et al. teaches a system that “allows a two-phase commit protocol to work properly, even with the client acting as the coordinator does not have a log to record two-phase state information” (see Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Freund et al., since Freund et al. teaches that “For example, in the case of a bank automated teller machine (ATM) from which a customer seeks to withdraw money, the actions of issuing the money, reducing the balance of money on hand in the machine and

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reducing the customer's bank balance must all occur or none of them must occur.

Failure of one of the subordinate actions would lead to inconsistency between the records and actual occurrences" (see 1:15-23).

As to claim 27, please refer to the rejection of claim 4.

As to claim 29, please refer to the rejection of claim 6.

As to claim 30, please refer to the rejection of claim 7.

As to claim 31, please refer to the rejection of claim 11.

5. Claim 5, 15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benson et al. (US Patent 6,873,995) in view of (Cotner et al. US 5,884,327), and further in view of Hoffman et al. (US Patent 5,261,102).

As to claim 5, Benson et al. as modified teaches the method of claim 1.

Benson et al. does not explicitly teach wherein said relational table specifies row-level locking

Hoffman et al. teaches wherein said relational table specifies row-level locking (see 5:45-56).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Hoffman et al., since Hoffman et al. teaches "Both the Database Manager and Database Services are well known applications for the PS/2 computer and need not be described in detail".

As to claims 15 and 23, please refer to the rejection of claim 5 above.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benson et al. (US Patent 6,873,995) in view of Cotner et al. (US 5,884,327), and further in view of Freund et al. (US 5,923,833), and further in view of Hoffman et al. (US Patent 5,261,102).

As to claim 28, Benson et al. as modified teaches the article of manufacture of claim 26.

Benson et al. does not explicitly teach wherein said relational table specifies row-level locking.

Hoffman et al. teaches wherein said relational table specifies row-level locking (see 5:45-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Benson et al. by the teachings of Hoffman et al., since Hoffman et al. teaches "Both the Database Manager and

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Database Services are well known applications for the PS/2 computer and need not be described in detail".

Response to Arguments

7. Applicant's arguments filed 9 January 2009 have been fully considered but they are not persuasive.

Applicant argues, in regards to the independent claims that "conspicuously absent in paragraph [0022] and [0023] is a teaching for the step of placing a request for insertion of a potentially indoubt entry in a relational database along with the instruction to prepare to commit a transaction. Applicants respectfully submit that such mentions of interaction between a client and a server for the purpose of storing a new item or such mentions of success and failure messages associated with a tracking table CANNOT render obvious the feature of placing a request for insertion of a potentially indoubt entry in a relational database along with the instruction to prepare to commit a transaction. The secondary reference (i.e., Cotner et al.) was not cited by the Examiner as teaching such a feature. Applicants, therefore, respectfully submit that the combination of Benson et al. and Cotner et al. fail to teach all features of independent claims 1 and 12." In regards to claim 18, Applicants argue that "the above-presented arguments substantially apply as the cited references (Benson et al. and Cotner et al.) do not teach such cost minimization by placing two messages – one for the SQL INSERT instruction and another for the prepare-to-commit transaction – in one network message.

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Applicants, therefore, respectfully submit that the combination of Benson et al. and Cotner et al. fail to teach all features of independent claim 18.”

In response to the argument that Benson et al. and Cotner et al. do not teach "cost minimization", it is noted that that limitation is an intended use. As such, it is optionally recited and bears no patentable weight. See MPEP § 2106 Section II(C):

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) “adapted to” or “adapted for” clauses,
- (C) “wherein” clauses, or
- (D) “whereby” clauses.

This list of examples is not intended to be exhaustive. >See also MPEP § 2111.04.<

Benson et al. teaches wherein the client establishes a connection with the library server, and sends requests to insert an index entry, a place holder for storing or replacing a content management object, and setting a “transaction in progress” flag for storing or replacing an object (see paragraph [0023]). In paragraphs [0032]-[0033], Benson et al. notes that “A row with status “I” is inserted with each BEGTRAN”. Cotner et al. teaches “inserting an indoubt entry”, see 13:32-55). It is noted that these requests are all part of the same step, and are a single message from a client to a server. It is noted that Applicants' claims are also define multiple requests as a single message.

In regards to claim 26, Applicant argues that “Freund et al. teaches a method for restart and recovery of an OMG-compliant transaction system by logging, with a

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recovery service, recovery information for the client process in a log file. The Examiner's citation of column 11, lines 22-35 merely teaches that a transaction manager determines a transaction outcome in a conventional manner, and based upon this outcome, a decision is made regarding whether or not to ROLLBACK or COMMIT. Conspicuously absent in the Examiner's citation is a teaching for transmitting, to a client, an extracted list of indoubt units of work from a relational table, wherein the client inspects such a list and issues a COMMIT or ROLLBACK. Applicants, therefore, respectfully submit that the combination of Benson et al., Cotner et al., and Freund et al. fail to teach all features of independent claim 26".

In response to this argument, it is noted that Freund et al. teaches wherein a Recovery Service "replays the log data that corresponds to all of the in-doubt transactions" (see 11:22-23), thus "extracting" a list of indoubt units of work from a relational tale. Fruend et al. then teaches wherein the Transaction Manager inspects this log data, and "determines the transaction outcome in a conventional manner" (see 11:29-30), which Fruend et al. indicates to be either committing the transactions or rolling them back (see 11:31-33).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES D. ADAMS whose telephone number is (571)272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/C. D. A./

Examiner, Art Unit 2164

/Charles Rones/

Supervisory Patent Examiner, Art Unit 2164